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REMARKS

The Applicants have carefully considered the Examiner's comments in the Office Action dated September 15, 2005. Of the 24 claims currently pending, Claims 17-24 were withdrawn and Claims 1-6 stand rejected in the Office Action. The Applicants have amended application paragraphs 23, 27 and 33 for clarity. The Applicants have cancelled Claims 17-24 and have added new Claims 25-28. Applicants assert that no new matter is added to the application by the current amendments. Applicants respectfully request reconsideration by the Examiner.

The Applicants confirm the election of Claims 1-16 directed toward the same invention. Accordingly, Applicants have withdrawn from consideration, with reservation, Claims 17-24. Also, Applicants have added novel Claims 25-28 directed at the same invention as Claims 1-16.

In the Office Action, Claims 18-20 and 22-24 were objected to as depending incorrectly from independent claims. However, this objection is now moot because the Claims 17-24 have been cancelled.

In the Office Action, Claims 1-5 and 16 were rejected under 35 U.S.C. §102(b) as being anticipated by *Lounsberry et al.* (US 4,573,185). Applicants respectfully traverse the rejection.

Claim 1 requires an x-ray anode having a substrate material, a target material, and one or more graded CTE material layers coupling the substrate material to the target material. *Lounsberry et al.* discloses a tungsten focal track placed on a graphite substrate as to reduce off focal spot radiation while maintaining a fixed focal spot size. The Office Action states, "Lounsberry teaches ...a CTE material layer of rhenium (21) coupling the substrate material (12) to the target material (18)." However, while *Lounsberry et al.* discloses a rhenium (21) layer, *Lounsberry* does not disclose a graded CTE material layer. *Lounsberry et al.* fails to teach or suggest one or more graded CTE material layers coupling the substrate material to the target material. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. §102(b) be withdrawn as *Lounsberry et al.* fails to teach or suggest each and every element of Claim 1.

Claims 2-5 and 16 are also believed to be allowable since each claim depends from novel independent Claim 1.

In the Office Action, Claims 1-5, 7, 8 and 16 were rejected under 35 U.S.C. §102(b) as being anticipated by *Truszkowska* (US 5,875,228). Applicants respectfully traverse the rejection.

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Claim 1 requires an x-ray anode having a substrate material, a target material, and one or more graded CTE material layers coupling the substrate material to the target material. *Truszkowska* discloses a lightweight rotating anode for an x-ray tube. The Office Action states, "*Truszkowska* teaches ...a CTE material layer is layered sequentially from the substrate material and layered horizontally from the substrate surface." However, while *Truszkowska* discloses "an interlayer 24 provides ductile transition between the carbonaceous material 20 and the focal track 22" (Column 4, Lines 15-37), *Truszkowska* does not disclose a graded CTE material layer. Moreover, *Truszkowska* discloses an interlayer for the purpose to "accommodate tensile overstress due to thermal expansion mismatch with the substrate on cooling from the deposition temperature and to reduce microcracking of the focal track coating system during thermal cycling." However, this rhenium interlayer 24 has a CTE that is greater than the carbonaceous material 20 and the focal track 22 which actually raises thermal stresses between the carbonaceous material 20 and the focal track 22. The interlayer as disclosed by the *Truszkowska* reference actually teaches away from the present invention. Therefore, *Truszkowska* fails to teach or suggest one or more graded CTE material layers coupling the substrate material to the target material. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. §102(b) be withdrawn as *Truszkowska* fails to teach or suggest each and every element of Claim 1.

Claims 2-5, 7, 8 and 16 are also believed to be allowable since each claim depends from independent Claim 1.

In the Office Action, Claims 1-6 were rejected under 35 U.S.C. §102(b) as being anticipated by *Horner et al.* (US Patent App. Pub. No. US2003/0006269 A1). Applicants respectfully traverse the rejection.

The Applicants carefully considered *Horner et al.* (US 6,554,179) at the time of filing and submitted an Information Disclosure Statement including the same. The Horner patent issued shortly after the publication of the cited *Horner* reference, both being from the same disclosure, i.e., Appl. No.: 09/900,252. Applicants believe that neither reference teach nor suggest the novel inventive aspects of the present application.

Claim 1 requires an x-ray anode having a substrate material, a target material, and one or more graded CTE material layers coupling the substrate material to the target material. *Horner et al.* discloses reaction brazing of tungsten or molybdenum body to carbonaceous support. The Office Action states, "*Horner* teaches ...a CTE material layer coupling the

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substrate material to the target material ([009]; [0010]; [0015] and [0016]).” However, while *Horner et al.* discloses the CTE of tungsten or molybdenum and the CTE of the carbonaceous substrate reaction brazed together, *Horner* does not disclose a graded CTE material layer. Moreover, the *Horner* reference discloses:

“...It is important to be able to produce a bond having a structure that will withstand the strains and stresses which necessarily will occur during substantial temperature excursions between ambient and operating temperatures because of the CTE differences... For example... there is the distinct possibility of developing high strains at and near the interface of the bond during temperature excursions. Of course, such excursions are to be expected because high temperature operation for such structures is generally anticipated...”

See *Horner* paragraph [0016]. The *Horner* reference, in fact, teaches away from the present invention because the bond has to withstand high strains and stresses between the material bond that are developed by temperature changes as opposed to reducing the strains and stresses. *Horner et al.* fails to teach or suggest one or more graded CTE material layers coupling the substrate material to the target material. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. §102(b) be withdrawn as *Horner et al.* fails to teach or suggest each and every element of Claim 1.

Claims 2-6 are also believed to be allowable since each claim depends from independent Claim 1.

In the Office Action, Claim 9 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Truszkowska* (US 5,875,228). Also, Claim 6 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Truszkowska* (US 5,875,228) in view of *Horner et al.* (US Patent App. Pub. No. US2003/0006269 A1). Moreover, Claims 10-13 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Horner et al.* (US Patent App. Pub. No. US2003/0006269 A1). Furthermore, Claims 14 and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Horner et al.* (US Patent App. Pub. No. US2003/0006269 A1) in view of *Lewis et al.* (US 6,395,220). Applicants respectfully traverse the rejections.

Claims 9, 6, 10-13 and 14-15 are also believed to be allowable since each claim depends from independent Claim 1.

Therefore, Claims 2-16 are also believed to be allowable since each claim depends from independent Claim 1. Moreover, the cited references fail to teach or suggest the novel aspects of newly added Claims 25-28 for the above mentioned reasons.

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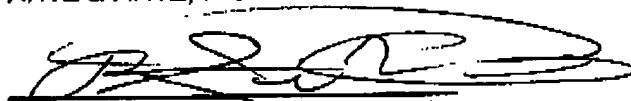
Accordingly, in view of the foregoing Remarks, Applicants submit that Claims 1-16 and 25-28 are allowable and in a proper condition for allowance. A Notice of Allowance indicating the same is therefore earnestly solicited.

The Examiner is invited to telephone the Applicants' undersigned attorney at (248) 223-9500 if any unresolved matters remain.

Please charge any fees required in the filing of this amendment to Deposit Account 50-0476.

Respectfully submitted,

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